

DCM-40/60

DOUBLE VIEW MICROSCOPE

For comparison of top & bottom pattern of wafer

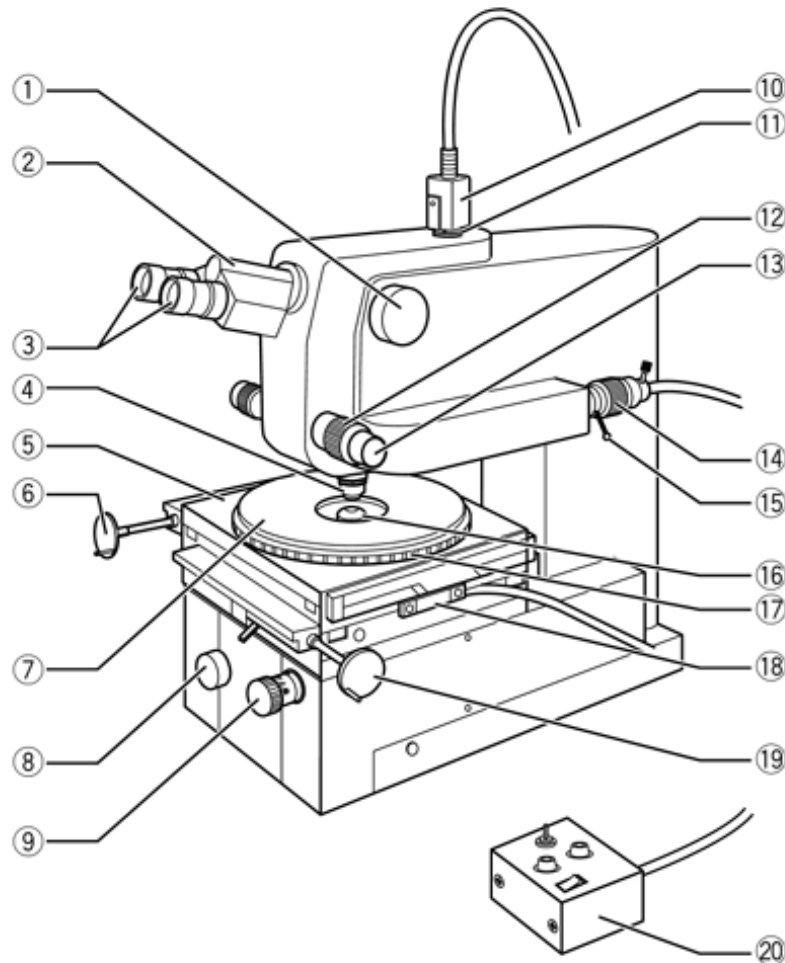


Outline of Product

DCM-40/60 is a special microscope designed to see if the top and bottom patterns of a wafer are identical with each other. With DCM-50/60, it is possible to superimpose the two patterns in one view field (usually on monitor screen) for their comparison. Any differences between them can be easily detected, and the amount of difference can be determined by linear gauge & counter. Objectives are available in various magnifications (5X, 10X, 20X, 40X), making DCM-40/60 applicable to a variety of materials. DCM-40 is for wafers of up to 4 inches. DCM-60 is for wafers of up to 6 inches.



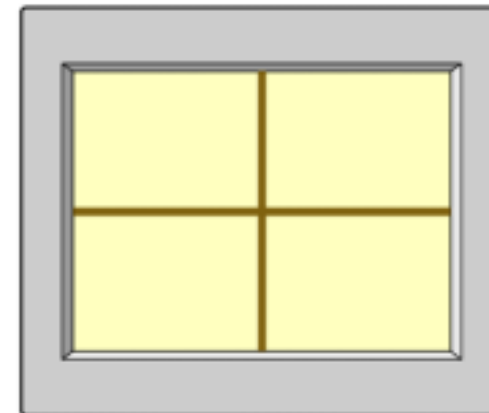
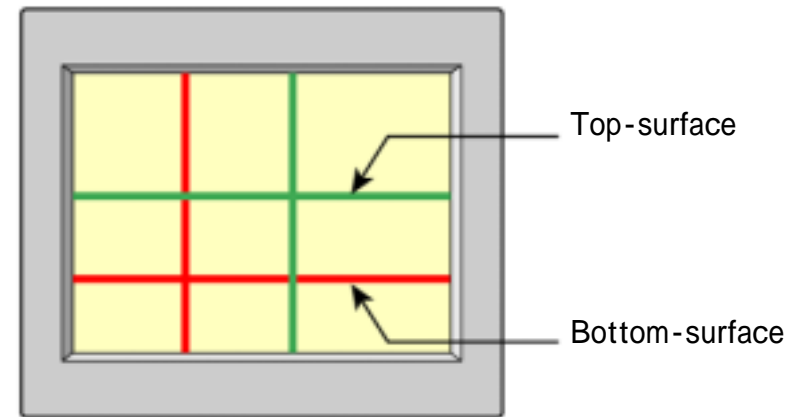
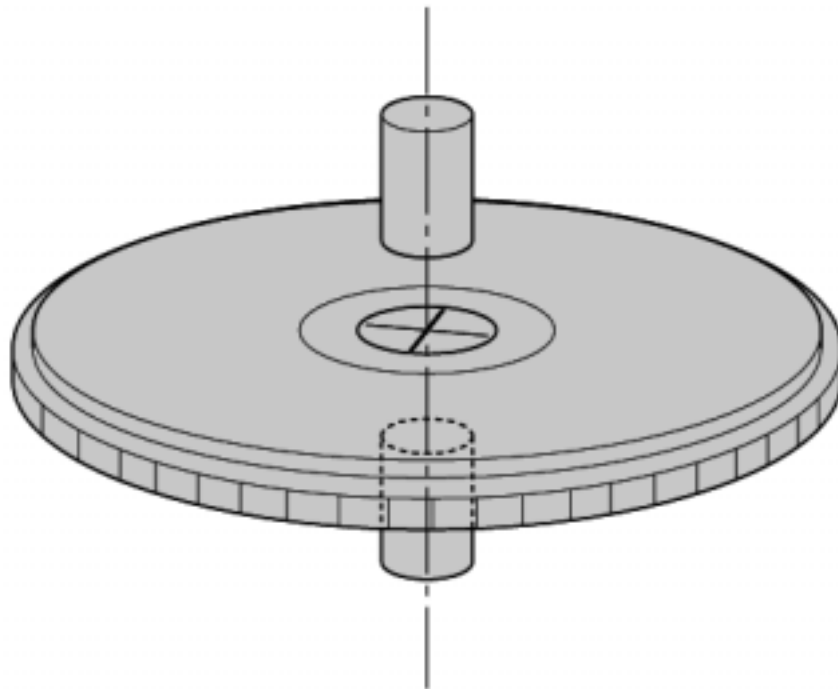
構成



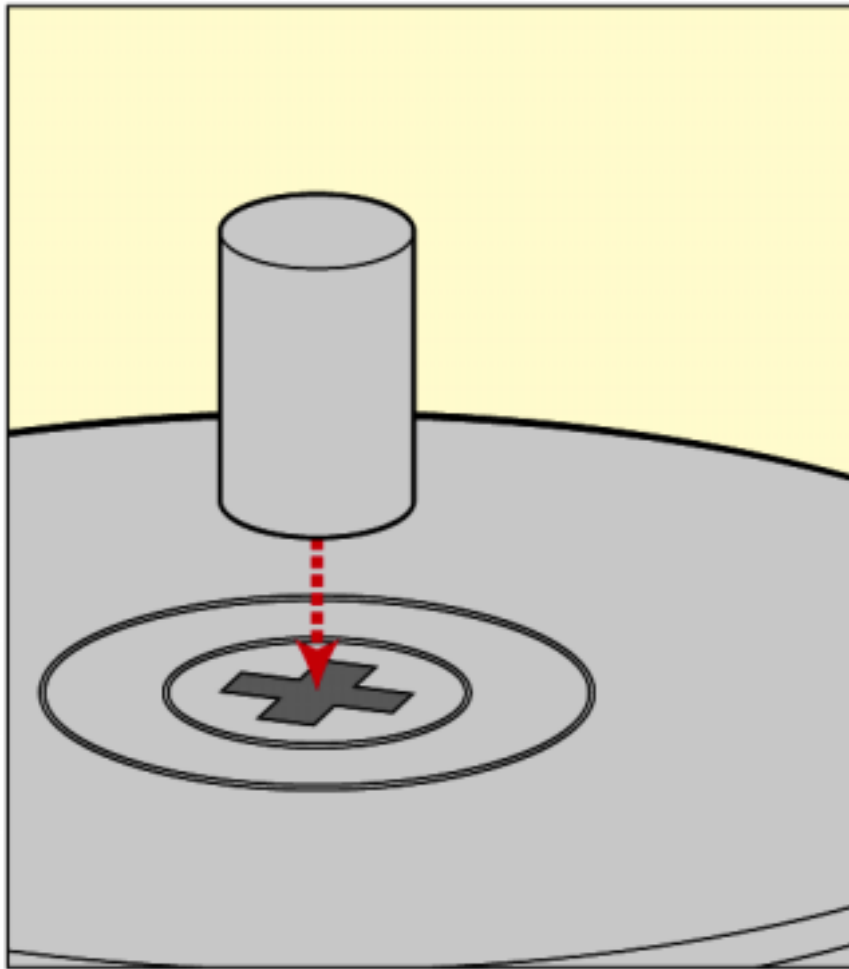
- ① Optical path selector knob for observation, TV and photography
- ② Binocular viewinghead
- ③ Eyepieces
- ④ Top-surface objective
- ⑤ 150 x 150 moving stage
- ⑥ Y-axis handle
- ⑦ Wafer holder
- ⑧ Handle for vertical movement of bottom-surface objective
- ⑨ Optical path selector
- ⑩ CCD camera (option)
- ⑪ TV C mount
- ⑫ Top-surface objective coarse focus handle
- ⑬ Top-surface objective fine focus handle
- ⑭ Aperture
- ⑮ Filter
- ⑯ Bottom-surface objective
- ⑰ Rotary circular stage
- ⑱ Linear scale
- ⑲ X-axis handle
- ⑳ Light volume remote control

Measurement Procedure

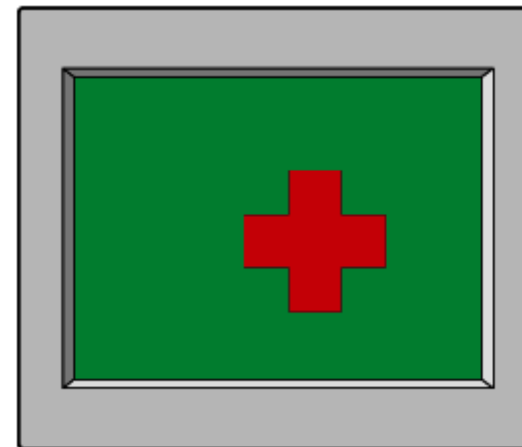
Set OPTICAL AXIS switch to Top & Bottom.
Align the optical axes of upper and lower objectives with calibration chart.



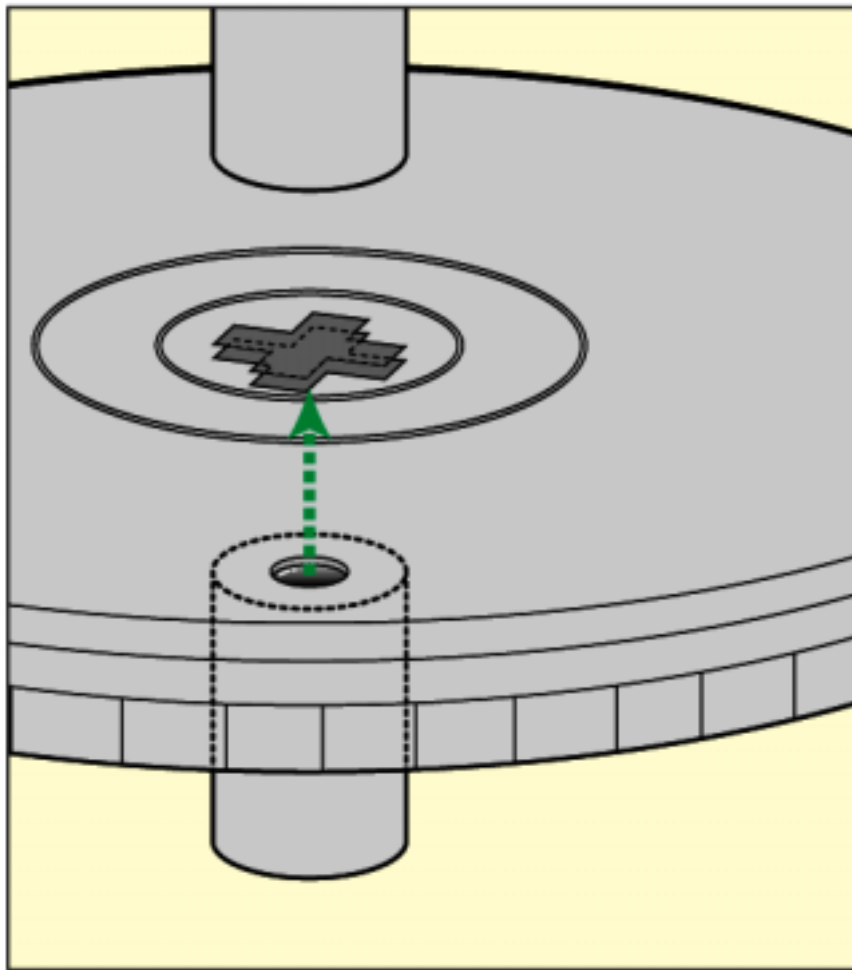
Measuring Procedure



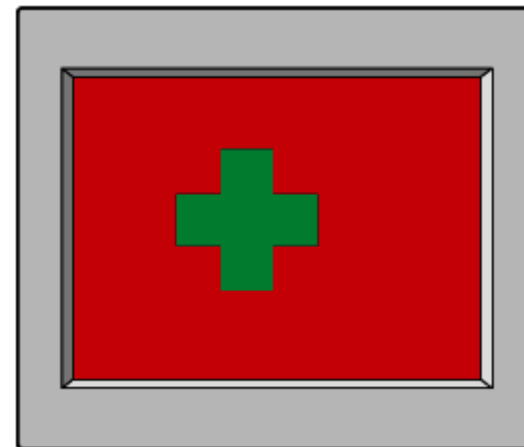
Place wafer on wafer holder.
Set OPTICAL AXIS switch to Top.
Focus on the top surface.



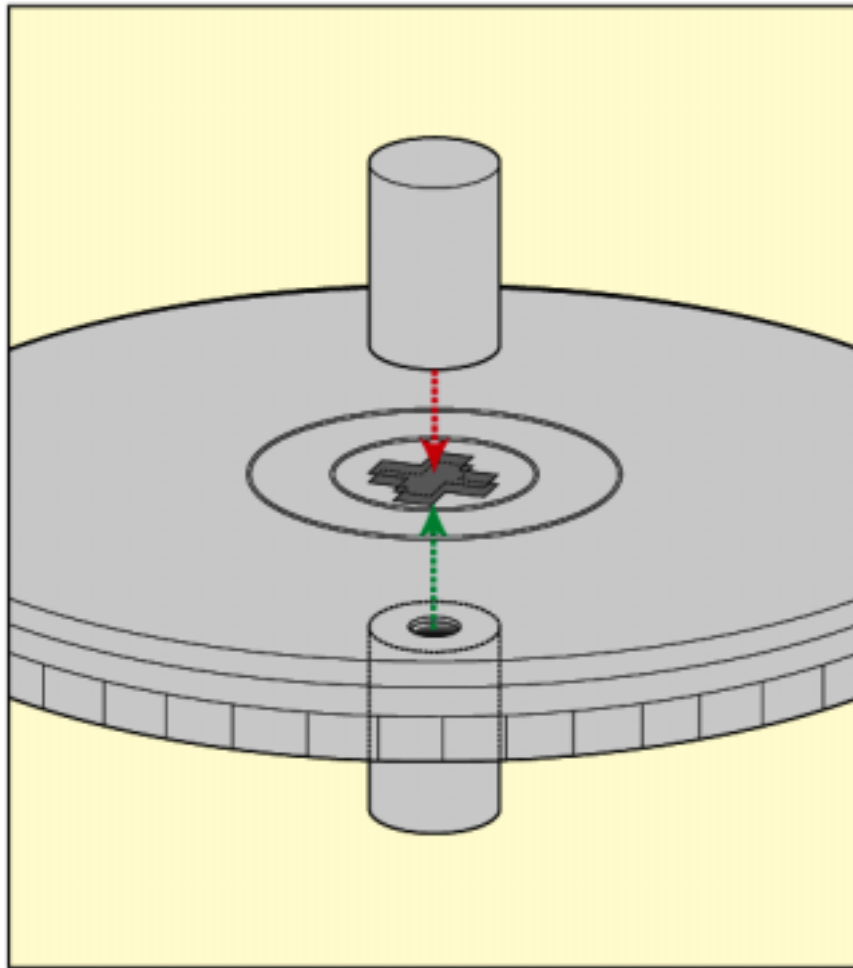
Measuring Procedure



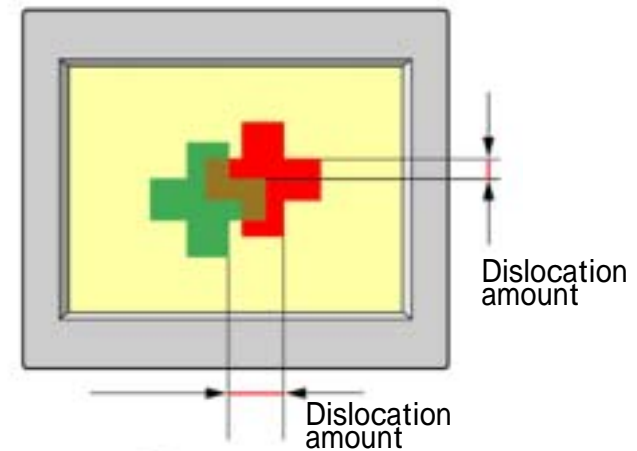
Set OPTICAL AXIS switch to Bottom.
Focus on the bottom surface.



Measuring Procedure



Set OPTICAL AXIS switch to Top & Bottom. See if the two patterns completely fuse into one image. Determine the amount of dislocation, if any, with linear gauge & counter, or with micrometer reticle of eyepiece.

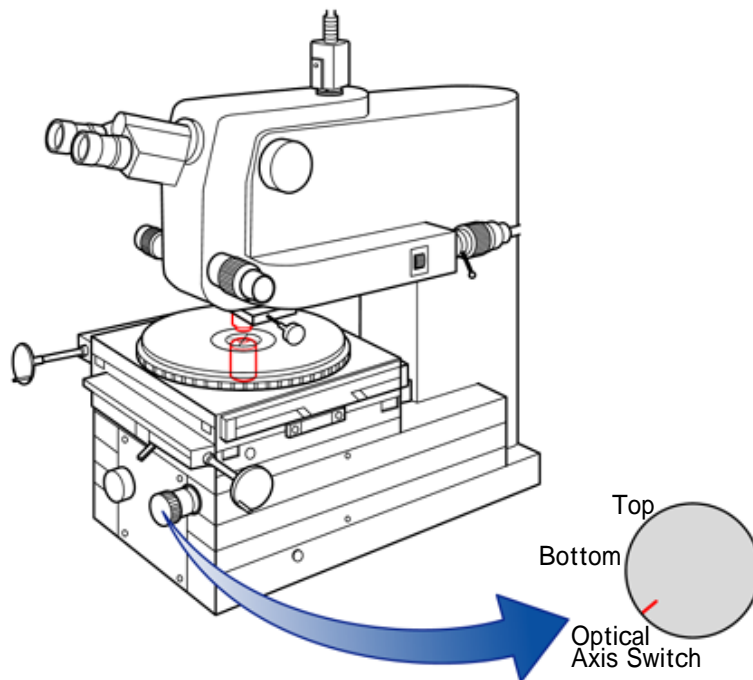


KC-12R

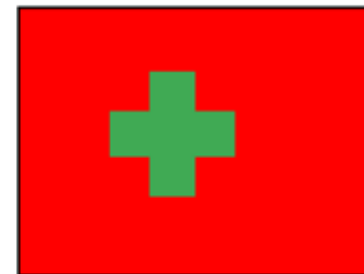


Feature

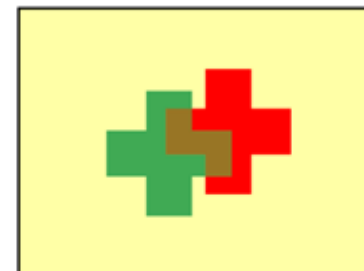
- 1) Easy alignment of beam axes of upper and lower objectives.
- 2) DCM-40/60 can come with various types of stages.
- 3) Comes with C mount as standard. TV monitor observation and photographing are possible. (Both CCD video camera and digital camera can be used. Digital camera adapter is optional.)
- 4) It is possible to observe top or bottom face alone.



Top



Bottom

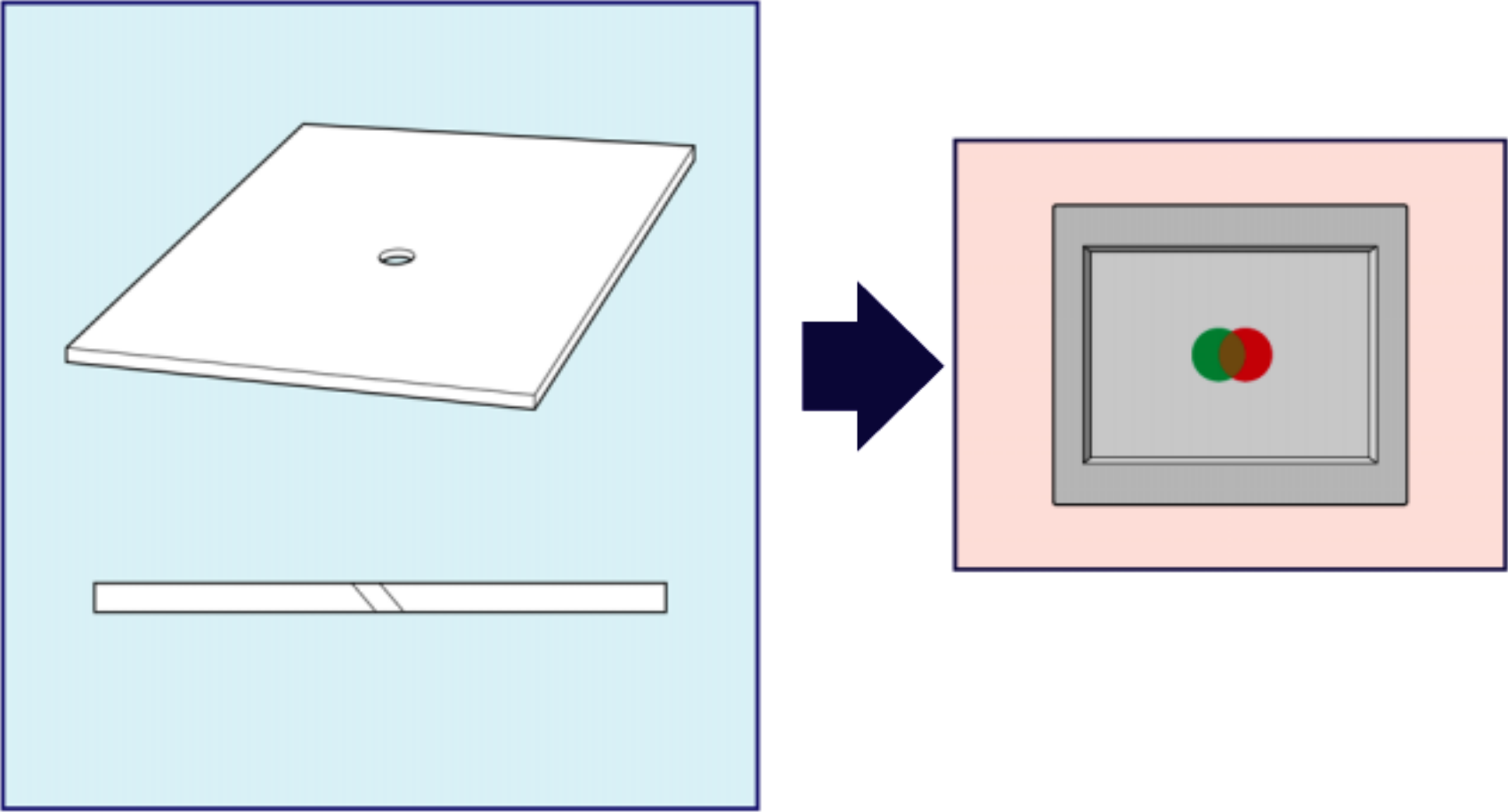


Top & Bottom



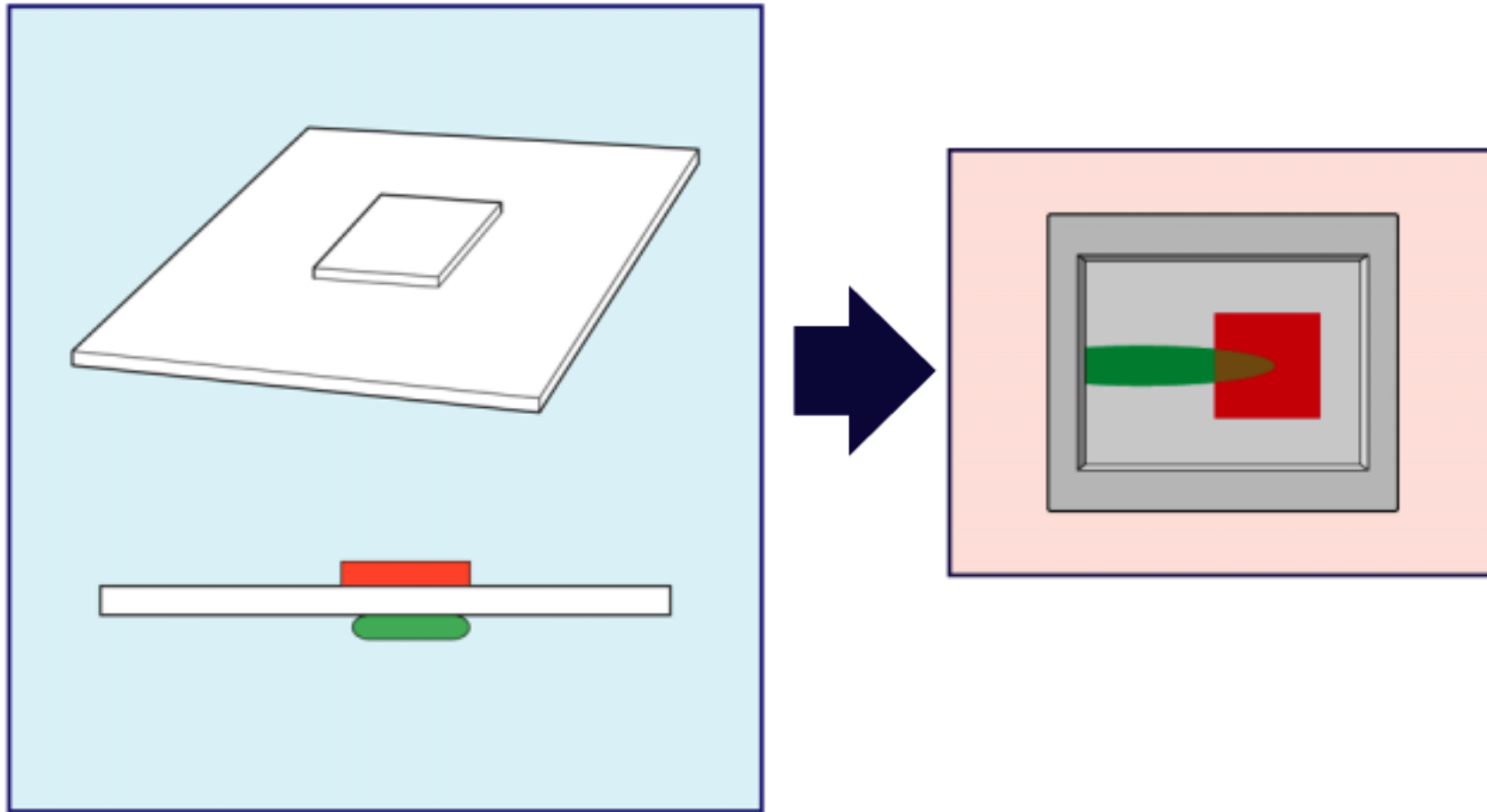
Applications

Overlap of through-hole



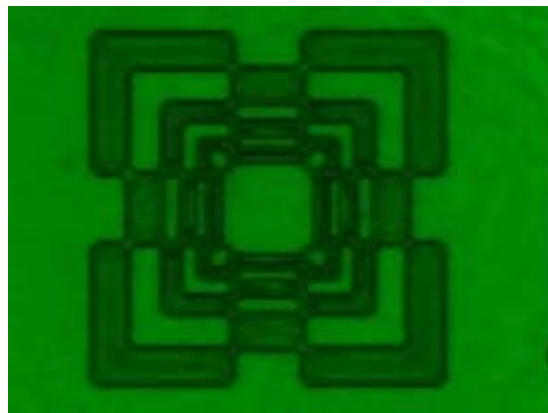
Applications

Overlap of electrode on a wafer



Example

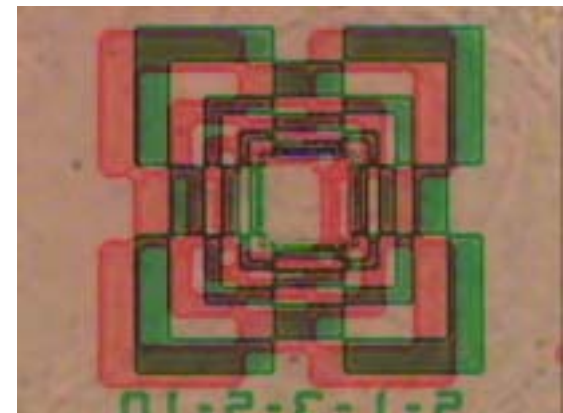
Top Pattern



Bottom Pattern

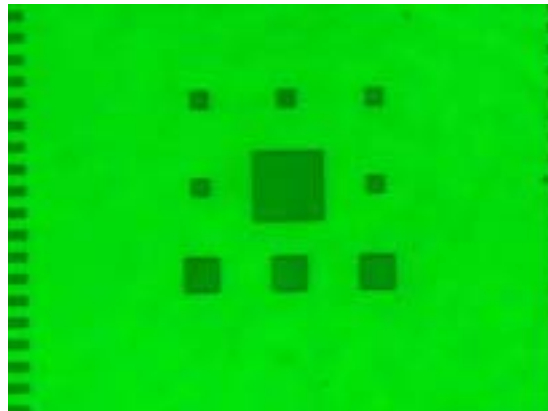


Composite Pattern

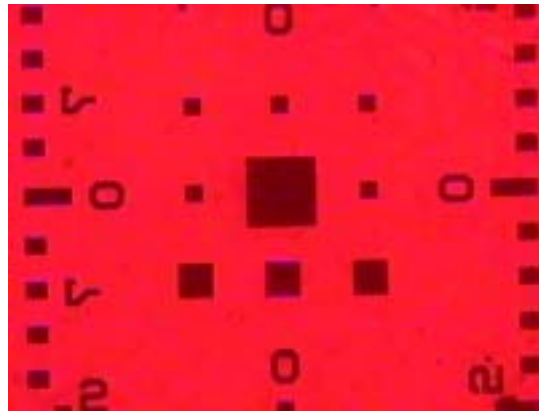


Example

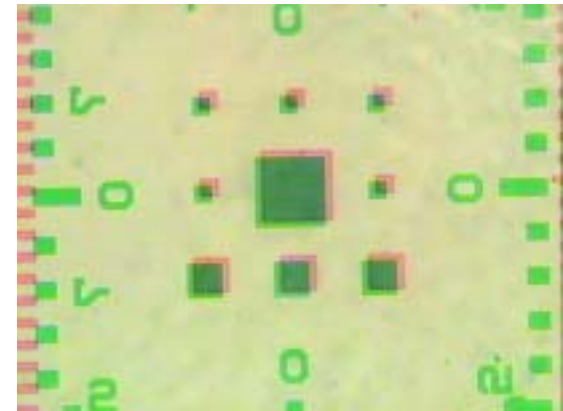
Top Pattern



Bottom Pattern

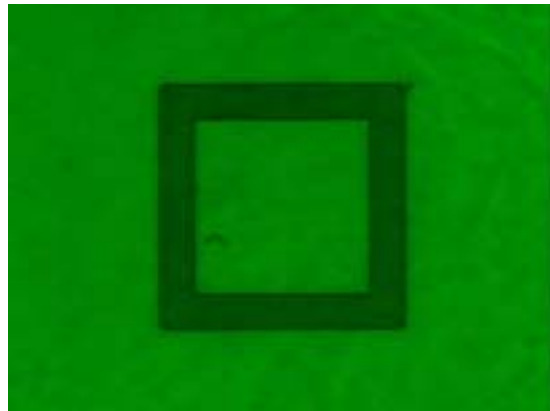


Composite Pattern

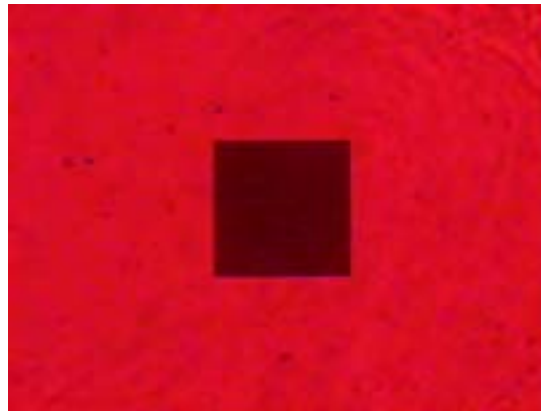


Example

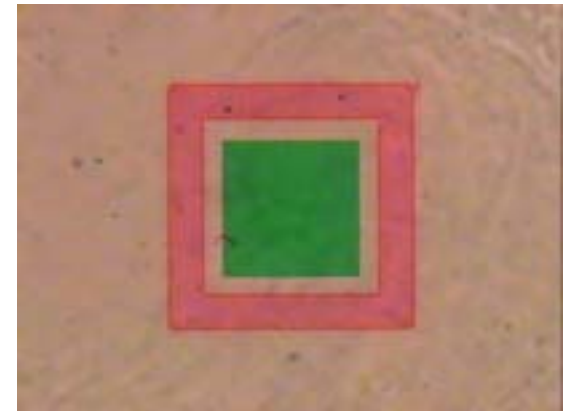
Top Pattern



Bottom Pattern

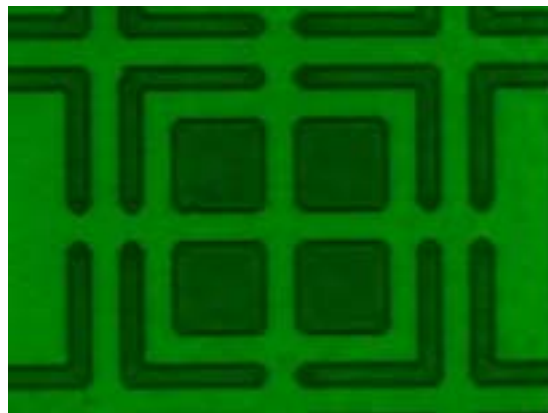


Composite Pattern



Example

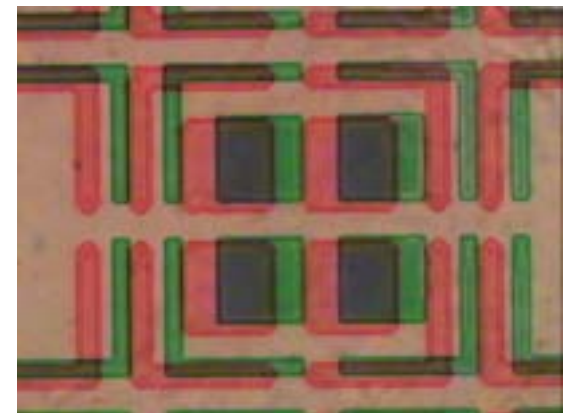
Top Pattern



Bottom Pattern



Composite Pattern



Specifications

	DCM-60		DCM-40		
Objectives (To be selected by customer)	(Total Magnification) Top Bottom	(50X) PLM5X PLM5X	(100X) PLM10X PLM10X	(200X) PLLWDM20X PLLWDM20X	(400X) PLLWDM40X PLLWDM40X
Eyepiece	A pair of SUW10X (including Micrometer Reticle)		A pair of UW10X (including Micrometer Reticle)		
Total Magnification	50X to 400X (Larger Magnifications are available on custom-order basis.)				
Travel Distance of Upper Objective	24mm		30mm		
Travel Distance of Lower Objective	3mm		12mm		
Filter	Top : Green Bottom : Red				
Stage & Counter	150 x 150mm Manual Stage KC-12R Counter (1μm reading)		50 x 50mm Manual Stage, Digital Micrometer (1μm reading) 100 x 100mm Manual Stage, KC-12R Counter (1μm reading)		
Stage Travel	X : 150mm Y : 150mm		X : 50mm Y : 50mm / X : 100mm Y : 100mm		
Wafer Holder	Maximum : 6 inches		Maximum : 4 inches		
	Holder can be supplied in specially designed shape on custom-order basis.				
Stage Rotation	360°				
Illumination	150W Halogen Light Guide Illumination				
Thickness of Material	20 mm or less		30mm or less		
Type of Calibration Chart	Calibration Chart for Optical Axis Alignment				

